The Kentucky Health Information Exchange

Executive Summary

Introduction

The Kentucky Health Information Exchange (KHIE) offers the Commonwealth an unprecedented opportunity to advance health information technology and support healthcare providers in adopting and implementing electronic medical records (EMR). Through coordinating the delivery of more efficient care via electronic health record (EHR) exchange, KHIE will be instrumental in improving patient health outcomes and population health. It can also assist healthcare providers to achieve meaningful use.

Background

Work immediately began on the technical infrastructure of KHIE. Funding for this momentous task was received from both the Centers for Medicare and Medicaid Services (CMS) and the American Recovery and Reinvestment Act (ARRA). In addition to the funding opportunity, the ARRA provided a roadmap and guidance to the development and implementation of the nationwide electronic health information system. As a result, almost every state in the United States is pushing to strengthen their efforts in transforming the nation's healthcare system from paper records to electronic.

Kentucky received over 9 million dollars to advance the use of electronic health information exchange and support eligible healthcare providers across the state in achieving meaningful use of certified technology. Eligible providers who demonstrate meaningful use of certified EMRs started receiving incentive payments in January, 2011.

In light of the benefits and consequences to the healthcare providers and consumers alike, KHIE has a solid commitment to support statewide adoption of electronic health information exchange. To that end, KHIE provides a common, secure electronic information infrastructure. The design of KHIE is flexible in that, as criteria for determining meaningful use expands beyond stage 1, functionality will be added to support providers in achieving meaningful use.

KHIE provides a baseline set of functions available across the state to support the exchange of electronic health information. Core components of KHIE include a master-patient index, record-locator service, security, provider-user authentication, logging, audits, and alerts. The focus of KHIE is on improving the health, quality, and safety of healthcare for Kentucky's residents and visitors through the provision of a statewide, interoperable health information exchange.

Connectivity

KHIE offers participating healthcare providers two options of connectivity, based on current practices and technical capabilities. The first option is based on the ability to send and receive Continuity of Care Documents (CCDs) via defined industry standards. Recognizing that this is an emerging standard and that many Healthcare Information Systems (HIS) do not yet have this capability in their current releases, KHIE provides an alternate connectivity option through standard HL7 messages. The second option is commonly used in information exchange today and provides the same capabilities for providers seeking to demonstrate stage 1 meaningful use. These two options are detailed below.

Connectivity Option 1: Participants with CCD Capability

Healthcare providers whose electronic medical record has the capability of sending or receiving CCDs connect to KHIE via the web services. In this option, the CCD will be created by the electronic medical record upon receiving an inquiry from KHIE, and will then be consolidated with CCDs from other providers and with data extracted from Edge Servers described in Option 2. The consolidated CCD will then be returned to the inquiring provider's electronic medical record, or displayed in KHIE's Community Record, the Virtual Health Record (VHR), which is also described in Option 2. Functional specifications required for this connectivity model are in the KHIE Participant Connectivity Guide, which is provided during the on-boarding process.

Connectivity Option 2: Participants without CCD Capability

Healthcare providers choosing this option will be connected to KHIE utilizing Edge Server technology with VPN tunnel connectivity. This process includes a standard series of HL7 transactions sent via the healthcare provider's electronic medical record to a secure Edge Server for storage and retrieval. The Edge Server is logically dedicated to that individual provider, and not co-mingled with other providers' data. From the Edge Server, the data is made available to KHIE for exchange with other connected healthcare providers via inquiry, or through KHIE's Community Record, the Virtual Health Record (VHR). KHIE's Community Record is a web-based portal that may be distributed to those healthcare providers who do not have the capability of sending or receiving a CCD.

The members of the KHIE team are available to assist you in securing connectivity to KHIE. Please visit our website at www.khie.ky.gov to locate the Outreach Coordinator in your area or for more information, you may call our office at 502-564-7992.